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Vol. 20. March, 1918. No. 231.

HISTORY OF THE AMERICAN RECORD OF SCIRPUS MUCRONATUS.

Bayard Long.

In an article by Dr. N. L. Britton, entitled *New or Noteworthy North American Phanerogams*, published in 1888,[1] there appears the note: "*Scirpus mucronatus*, L. This Old World species was collected over twenty years ago in Delaware County, Penn., by Mr. C. E. Smith and Dr. George Smith, and appears to have since lain unnoticed in our herbarium, which is to a certain degree my own fault, for there is a specimen in the Torrey Herbarium dating back to 1864. . . ."

This record was carried forward in 1890 in Watson and Coulter's edition of Gray's *Manual* where the species is credited to "a single locality in Delaware Co., Penn."; also in 1896 in Britton and Brown's *Illustrated Flora* — "In a swamp in Delaware County, Pennsylvania"— and in 1901 in Britton's *Manual*. In 1903 in Porter's *Flora of Pennsylvania* the species was recorded from an additional county — Chester. In Keller and Brown's *Flora of Philadelphia and Vicinity* in 1905 the original station in Delaware County was more definitely noted as Rhoads' Swamp, on the authority of Benjamin H. Smith, and the new record from Chester County was copied from Porter. In the second edition of Britton's *Manual* of 1905 and in the third edition of two years later the record stood as in the *Manual* of 1901. In Linnaeus Fussell's *List of Delaware County Plants*, published in the Proceedings of the Delaware County Institute of Science in 1906, the plant received a recognized place in the flora, without comment. In

[1] Britton, Bull. Torr. Bot. Cl. xv. 103 (1888).

Gray's New Manual of 1908 the species was taken over, unchanged, except in a few details of description, from Watson and Coulter's edition; in the new edition of the *Illustrated Flora* there was no change from the first edition. In the latest publication where the species is cited, Norman Taylor's *Flora of the Vicinity of New York*, the occurrence is summarized thus: "Known in N. Am. only from a swamp in Delaware Co., Pa. and as reported also from Chester Co."

Our American sedge flora is so characteristically made up of indigenous species that there is a rather added attraction in introductions in this group. Probably no sedge, of the comparatively few foreign species accredited to this country, is less well known to American collectors than *Scirpus mucronatus;* yet for more than twenty-five years it has been a familiar name in all our manuals of the plants of the northeastern United States, nor has it ever failed to receive a place in various local floras covering southeastern Pennsylvania. Furthermore it has been over fifty years since this plant was first collected and almost equally long apparently since it was brought to the attention of the foremost botanists of the United States. But the point of chiefest interest to be noted is that all the material, with apparently a single exception, dates from the year of the original discovery, or a very few years later.

It will be recalled that species, especially introductions, which hold places in our manuals and floras upon the basis of old collections or records, coupled with little or no present day evidence, ofttimes prove to be worthy of critical attention. The reputed occurrence in America of *Scirpus mucronatus* is a case in point.

Unsatisfactory results, in investigating questionable records, seem to be the general rule: sometimes, in the absence of a substantiating specimen, an expression of opinion is the best that can be done; at other times even an apparently verifying specimen may leave one unconvinced. A specimen which solves the problem suggested by a record is unhappily none too common, but fortunately in the present case the evidence is clear and, moreover, ample.

The early history of this record to be gleaned from labels and notes accompanying the original specimens proves to be rather interesting, at least from a human standpoint, in showing through what vicissitudes a debatable record may pass. That, in its later history, in a succeeding generation of botanists, it may still rise to full credence and become traditionally authentic, is no less interesting as a human document.

For a long time there has been in the collection of the Philadelphia Botanical Club a specimen collected by Charles E. Smith in 1864 originally bearing the name "Scirpus mucronatus" and in a nearby corner of the label "fide Gray." At some later time the word "mucronatus" had been heavily crossed through and "debilis" written above. The locality, often so accurately designated by Smith is merely "(Del. Co.)." There is a single plant on the sheet of what appeared to be a rather immature, very ordinary-looking *Scirpus debilis,* with still erect involucral leaf. This specimen had failed to be definitely associated with the *mucronatus* record, in the absence of scepticism and especial interest. The copious notes often accompanying the C. E. Smith plants frequently bear critical comments by several botanists on the identity of the specimens, and often many changes of names. It was thus very easy to overlook this sheet on the presumption that there had been a mere casual misidentification.

Several years ago when a series of duplicates from the Aubrey H. Smith Herbarium was being obtained from the University of Pennsylvania specimens were secured bearing the label data: "Scirpus mucronatus L., Rhoads Swamp, Marple, Del. Co." There were a number of plants and loose culms, rather robust, and one almost 6 dm. tall, but in no manner, upon casual examination, differing from well developed *Scirpus debilis.* With the examination of this material an interest — and a suspicion — arose. A glance into Keller and Brown showed that while *Scirpus mucronatus* was recorded from Rhoads' Swamp on authority of Mr. Benjamin Smith, from exactly the same locality *S. debilis* was reported by Dr. Linnaeus Fussell!

Although all manual and flora references to this "Scirpus mucronatus" in Pennsylvania tacitly accepted it as a probable introduction from Europe, an interesting premonition of its true character is to be seen in an opinion originally voiced by Dr. Britton in his note, and no doubt suggested by C. E. Smith. "Mr. Smith has sent me the following note on the locality: 'It is in a small patch of *Sphagnum* in a field, 300 feet above tide water'," Dr. Britton quotes, and then says, "Mr. Martindale has it from the ballast grounds at Camden, but there seems no doubt that the Delaware County plant is a native."

The Porter Herbarium, with its wealth of Pennsylvania material, had only recently come to the Philadelphia Academy, and but little of it had yet been removed from the original covers and mounted. In the species cover of "Scirpus mucronatus" were found three sheets

of specimens bearing pertinently upon the records of this species. One sheet of two rather robust plants had been received from Dr. George Smith, as collected by himself in Delaware County, Pennsylvania in 1867. The label, in his own hand, reads "Scirpus debilis Pursh." This identification has been crossed out and in the hand of Dr. Britton has been written above, and initialed, "mucronatus, L. N. L. B." A second sheet contains several robust fruiting culms stuck through a slit label, bearing in C. E. Smith's hand the data: "Scirpus mucronatus, Del. Co., Pa." At the bottom of the label Porter has written, "A robust specimen of *Scirpus debilis*. T. C. P." and "mucronatus" has been crossed through. The third specimen consists of a rather robust clump in ripe fruit accompanied by Porter's label: "Scirpus debilis Pursh, Lincoln, Chester Co., Pa., Sept. 6, 1887." There seems to have been, first, a "?" pencilled after the determination, then "mucronatus?" written in pencil below the original name, and finally "mucronatus L." inked in ! Except for the rather noticeable robustness of these Porter plants they appeared to differ in no way from *Scirpus debilis*, and even in stature they were well within recognized limits of the species.

Examination of the Eurasian material of *Scirpus mucronatus* in the Academy Herbarium, the perusal of descriptions and following of keys in several European treatments was soon quite convincing that, although superficially somewhat resembling our American *S. debilis*, in technical characters this was a very different plant.

The Smiths — Charles, George and Aubrey — as well as a number of other Philadelphia botanists of their time were all closely associated, commonly collected specimens in duplicate and exchanged copiously. From former experience with records from these collectors it was felt that there would be within easy reach and personal examination in Philadelphia a still further series of specimens no doubt similar to the material at New York upon which Dr. Britton had based his record.

In the search for material verifying old records from the Philadelphia area the Herbarium of the University of Pennsylvania is one of the sources of first appeal. In the present case the evidence proved to be exceptionally complete and satisfactory. There are two sheets of plants here from the Aubrey H. Smith Herbarium bearing on the present question. The sheet of chief interest contains two specimens (which may have been one clump): one with about ten well developed culms, the other with two or three, some measuring 6 dm. or more in

height. They are robust plants with heads of about 5–15 spikelets, in ripe fruit. There are three tickets attached to this sheet, two of which are of interest. What is apparently the original collection label reads: "Scirpus mucronatus, Rhodes Swamp, Springfield, Del. Co., Sept. 18, 1864. Leidy, C. E. Smith, Geo. Smith, A. H. Smith, testes." This is written in a light ink in the hand of Aubrey Smith. In an upper corner of this ticket is pencilled "Gray says it is S. muc. Torrey says the same." Under which is written in a dark ink "(They are in error. A. H. S. Apr. 20, '68)" and under "Scirpus mucronatus" in the same dark ink appears inserted "This is S. debilis, Pursh. A. H. S." The second ticket is a long, critical note on the comparative characters of "the European plant" and "the American," in the characteristic hand and form of Charles E. Smith. There are sixteen lines of comparative description, in which he says, in small part, "The culm and involucre of our plant are slender. . . . and nearly terete — those of the European are stout, triangular." At the foot of the note he also has affirmed his conviction — "Scirpus debilis, Pursh. Not S. mucronatus." The other sheet bears a label in Aubrey Smith's hand, "Scirpus debilis, Rhodes Swamp, Del. Co." and a note, "This plant differs much from the plant usually called by this name — it is much stouter with more numerous spikes — has few or no leaves and has the involucre bent to one side." His description accurately fits the robust plant on the sheet, and his idea of characteristic *debilis* is readily explained, for the most part, by the other specimens he had — material from Upper Darby and from Lancaster County being of plants much smaller and more slender, with heads of fewer spikelets and the involucral leaves mostly erect. (These are not *Scirpus Smithii*, however, which is a quite distinct species.)

The Herbarium of the Delaware County Institute of Science at Media, Pennsylvania contains many valuable specimens bearing on local records. Here there is a sheet of *Scirpus debilis* from Rhoads' Swamp originally bearing the name "Scirpus mucronatus??" Its identity had already been the source of considerable divergence of opinion before it came under my own hand, for its original identification with two interrogation points had been corrected to "debilis," which in its turn had been discredited and "mucronatus" restored.

But despite the apparent conclusiveness of all this Philadelphia evidence, it is not to be forgotten that the record of 1889 technically rests upon the material at New York seen by Dr. Britton. He has

written that this consists of a specimen collected in Delaware County in 1864 by Mr. C. E. Smith, in the Columbia College Herbarium, and a specimen collected by Dr. George Smith in 1867, received through Professor Porter. (These are undoubtedly duplicates of material in the C. E. Smith Herbarium and the Porter Herbarium, respectively.) Dr. Britton has kindly examined these New York specimens very critically and he is agreed that upon the basis of this material *Scirpus mucronatus* must be excluded from the American flora.

In the Gray Herbarium, Prof. Fernald has informed me, upon my inquiry, that no material was to be found under the name "Scirpus mucronatus," but further search in the herbarium finally disclosed a single sheet of C. E. Smith's material representing the record. This is labelled "Delaware County, Aug. 1864" (and is no doubt similar to the specimens at New York and Philadelphia). Critical examination by Prof. Fernald showed absolutely no difference between this material and that of authentic *S. debilis* sent out by Smith in 1865. In the search for this material an interesting fact came to light, in that — quoting from Prof. Fernald's letter — "the sheet long ago had been transferred to the *S. debilis* cover by Dr. Gray, who had marked on the sheet 'S. debilis, true.'"

It would seem that the opinions of Gray and of Torrey must have been obtained by the Philadelphia collectors not long after the discovery of the plant in 1864 — possibly even the same or the following year. There is no indication when C. E. Smith satisfied himself that this plant was *S. debilis* but A. H. Smith, it will be remembered, had dated his like opinion April 20, 1868. It is impossible to say just how soon after 1864 Gray reached this same conclusion — and rectified his former opinion — but there is probably to be seen a real connection between the correct identification of the plant and the fact that "Scirpus mucronatus" is *not* recorded in the 1867 edition of Gray's *Manual.*

How did the plant come to be included by Watson in 1890 in his edition of the *Manual?* — is the question that at once comes to mind. To Prof. Fernald's interest and investigation I am indebted for the information that the copy of the fifth edition which was annotated by Watson when revising the manual, before the publication of Edition 6, contains the note in his own hand, "S. mucronatus, L. See T. B. 15. 103" — which refers to the record in the Bulletin of the Torrey Botanical Club of 1888. This is indicative of Watson having accepted

the plant upon the basis of the published record, without having seen material — the specimen in the cover of *Scirpus debilis* having long before this time become completely dissociated from the "Scirpus mucronatus" collection.[1]

On one of the Charles E. Smith labels is the memo, "See Gray under S. Torreyi." In the first edition of Gray's *Manual* of 1848, and the succeeding early editions, following *Scirpus Torreyi* is the note: "S. mucronatus, L., should it ever be found in the country, will be known by its leafless sheaths, conglomerate head of many spikes, stout involucral leaf bent to one side, &c., &c." — no doubt inserted because of the reference, immediately above, to "S. mucronatus, Pursh? Torr. Fl. N. Y." in the synonymy of *S. Torreyi*. To this somewhat unfortunate note — or rather, perhaps, the unfortunate interpretation of it — is without doubt due the suggestion in the minds of the original collectors that the Rhoads' Swamp plant was to be identified with *Scirpus mucronatus*. Whether the elimination of this note in 1867 from the fifth edition of the *Manual* was owing to a realization of its somewhat misleading character — recognized through the matter of the Smiths' "Scirpus mucronatus" from Delaware County — cannot be asserted positively, but would seem not unlikely. It must certainly have been connected with some radical change of ideas about the species.

The assertion in the latter part of Dr. Britton's note on *Scirpus mucronatus* that "Mr. Martindale has it from the ballast grounds at Camden" was thought worthy of investigation. So many strange plants have been associated with the old ballast grounds that this statement suggested the possibility of a veritable occurrence of this species in America — interesting at least historically. Search in the Martindale Herbarium at the Philadelphia College of Pharmacy showed a specimen bearing the label: "Scirpus debilis Pursh = S. supinus, Ballast, Camden, N. J., June, 1877, Isaac C. Martindale." The identification has been corrected to *S. mucronatus* in the hand of Dr. Britton. The material, a single, whole individual, clean and

[1] For this reason, in the preparation of *Gray's New Manual*, no specimen was found under *S. mucronatus*, the species was left in the status of Watson's treatment, and for want of material remained unillustrated. In connection with illustrations, it may be noted that the line drawing in the two editions of Britton and Brown's *Illustrated Flora* is obviously not an original drawing made from the Delaware County material. It accurately represents *Scirpus mucronatus* L. however, and was doubtless made from Old World material, if not copied from some European source.

excellently prepared, shows a robust plant in mature fruit, with culms very palpably triangular and involucral leaves divergent — *Scirpus mucronatus*, perfectly characteristic in every way.

There is no material of this collection in the Herbarium of the Philadelphia Academy (where there are many Martindale duplicates), at the University of Pennsylvania, or presumably at New York or Cambridge, so it may be safely concluded that this occurrence of *S. mucronatus* at Camden was probably even more casual than the generality of ballast plants — many of which, although persisting only a season or two, at least originally occurred in such numbers of individuals as to be well, if not overly, represented in many herbariums. *Scirpus mucronatus* at Camden may be noted as a matter of historical record, but thus only.

Academy of Natural Sciences of Philadelphia.

NOTES ON THE CLAYTON HERBARIUM.

S. F. Blake.

(*Continued from page 28.*)

4. *Dioscorea villosa* L. Sp. ii. 1033 (1753).[1] In his recent revision of North American *Dioscorea* Bartlett (Bull. Bur. Pl. Indus. No. 189. 6–10, 15 (1910)) has displaced this name by *D. paniculata* Michx. on grounds which do not seem to me sufficient for the overthrow of the Linnaean name. Although the Linnaean species is certainly a complex, as Bartlett has clearly pointed out, it is by no means more likely to be a "source of permanent error and confusion" than are scores of Linnaean names today kept up by practically all authors. The only element in the published description determinable in the light of present-day knowledge is Clayton's number 94, which is *D. paniculata*

[1] *Dioscorea villosa.*

"7. DIOSCOREA foliis cordatis alternis oppositisque, caule laevi.

"Dioscorea foliis cordatis acuminatis: nervis lateralibus ad medium folii terminatis. *Gron. virg.* 121.

"Bryoniae similis floridana, muscosis floribus quernis, folliis subtus lanugine villosis: medio nervo in spinulam abeunte. *Pluk. alm.* 46. *t.* 375. *f.* 5.

"*Habitat in* Virginia, Florida."

of Bartlett's revision; the Plukenetian synonym is unidentifiable. It should be borne in mind that Clayton's plants were worked out by Gronovius with the constant assistance of Linnaeus and that citations from the Flora Virginica have therefore, as represented by still extant specimens actually seen by Linnaeus, a greater value today in the interpretation of Linnaean species than the often unintelligible descriptions and figures of earlier writers not now authenticated by specimens. The usual identity of citations of older authors in both the Flora Virginica and the Species Plantarum is also significant in this connection and may be taken as indicating the probability that the synonymy of the earlier work was likewise due to the coöperation of Gronovius and Linnaeus, and was later adopted directly by Linnaeus for the Species Plantarum. In any case, the fact that the Flora Virginica is nearly always the first cited and that its species are still represented by a nearly complete suite of specimens, while those of the older authors have in most cases to be determined on the basis of more or less dubious figures and descriptions, makes it of supreme importance in the determination of Linnaean names based on complexes of the sort exemplified in *Dioscorea villosa*. It seems to the writer that D. VILLOSA L. must be retained, as it was by nearly all the early American authors, and based on Gronovius's *Dioscorea foliis cordatis acuminatis &c.*, which rests on *Clayton* 94, the Plukenetian synonym being excluded, and Michaux's *D. paniculata*, published as a mere renaming of the Linnaean species, referred to its synonymy. The glabrous-leaved variety, *D. paniculata* var. *glabrifolia* Bartlett, l. c. 15 (1910), recorded from Connecticut to Kansas and Texas by Bartlett, and later from southwestern Michigan by E. J. Hill (RHODORA xiii. 35 (1911)), becomes D. VILLOSA L. var. **glabrifolia** (Bartlett).

5. *Lechea major* L. Sp. i. 90 (1753).[1]— *Helianthemum majus* (L.) BSP. Prel. Cat. 6 (1888), in part.— The type of this species, collected by Clayton ("in Collibus arenosis promontorii Point Comfort dicti Comit: Glocestiae"), is the same species as *Cistus canadensis* L. Sp. i. 526 (1753),[2] the *Helianthemum canadense* of Michaux, Fl. i. 308

[1] *Lechea major.*
"2. LECHEA foliis ovati-lanceolatis, floribus lateralibus vagis. *Gen. nov.* 1074. *f.* 4.*
"*Habitat in* Canadae *aridis.*"

[2] *Cistus canadensis.*
"17. CISTUS herbaceus exstipulatus, foliis omnibus alternis lanceolatis, caule adscendente.
"*Habitat in* Canada. *Kalm.* 2|
"Facies *C. Helianthemi, sed Folia alterna.*"

(1803), at least as to name-bringing synonym. By Michaux the name *Lechea major* was applied to a true *Lechea*, now known as *L. villosa* Ell. Sk. i. 184 (1816). Elliott, when renaming the species, remarks: "As the L. major of Linnaeus is now understood to be the Cistus canadensis and not a Lechea, I have avoided the name to prevent confusion." At about the same time attention was also called to the identity of the two names by Smith in Rees's Encyclopedia (xx. no. 2 ("1819")): "Now it happens that the specimen in the Linnaean Herbarium [of *L. major*] is no other than *Cistus canadensis*." The sheet in the Linnaean Herbarium to which Smith refers bears three fruiting branches of *H. canadense*, but no data. The name *Helianthemum canadense* (L.) Michx. is employed by Elliott for the species (Sk. ii. 4 (1824)) and should according to the International Rules continue to be used for the plant, although *Lechea major* has page priority over *Cistus canadensis*.

For the plant to which Mr. Bicknell, when first drawing attention (Bull. Torr. Club xxi. 257–260 (1894)) to the differences between our two previously confused northeastern species, applied the name *Helianthemum majus*, the first available name seems to be Helianthemum propinquum Bicknell in Britton, Man. ed. 2. 1069 (1905)). This was published as a new species intermediate between *H. majus* (of auth.) and *H. canadense*, and is still upheld by Mr. Bicknell (Bull. Torr. Club xl. 615 (1913)) as distinct, but I am unable, after careful comparison of five good sheets of material showing all stages of growth, collected by Mr. Bicknell and now in the Gray Herbarium, to discover any characters which seem to justify the separation of the plant as a species distinct from the *H. majus* of our present-day manuals — a conclusion in which I have the support of Prof. Fernald, who has previously worked on the group. Dr. Britton's reference (Ill. Fl. ed. 2. ii. 540 (1913)) of *H. propinquum* to *H. georgianum* Chapm. is not supported by the Gray Herbarium specimens referred to the latter species.

6. *Oenothera fruticosa* L. Sp. i. 346 (1753).[1] Tournefort's *Onagra*

[1] *Oenothera fruticosa.*

"3. OENOTHERA foliis lanceolatis, capsulis acutangulis.

"Oenothera florum calyce monophyllo, hinc tantum aperto. *Gron. virg.* 42.

"Onagra angustifolia, caule rubro, flore minore. *Tournef. inst.* 302.

"*Habitat in* Virginia. ♃

"Calyx *purpurascens, tetraphyllus, sed rumpitur altero saepius & unico latere.* Tubus *filiformis, angustissimus.* Capsula *angulis* 4 *acutis compressis.* Folia *rarius denticulata.*"

angustifolia &c., referred to this species by Linnaeus, is not identifiable, and the name must rest on Clayton's specimens, on which the Gronovian reference was based, and on the specimens in the Linnaean Herbarium. Clayton's plants (nos. 36 & 333), now in the British Museum, are not the species now called *O. fruticosa*, but are *O. linearis* Mx. Fl. i. 225 (1803). In the Linnaean Herbarium the species is represented by a single sheet bearing a large specimen and a fragment of *O. linearis*, in addition to a fragment of the upper portion of a stem of the plant now treated as *O. fruticosa* var. *hirsuta* Nutt. Under these circumstances it becomes necessary to adopt the name O. FRUTICOSA L. for the plant we have been calling *Oenothera linearis*, which necessitates the following transfer: O. FRUTICOSA L. var. **Eamesii** (Robinson) Blake (*O. linearis* Michx. var. *Eamesii* Robinson, RHODORA x. 34 (1908)).

The earliest name clearly referring to a form of the *O. fruticosa* of our manuals, among the many that have been referred by one author or another to this species, seems to be O. HYBRIDA Michx. Fl. i. 225 (1803), the type of which in the Michauxian Herbarium at Paris was identified by Prof. Fernald in 1903 as *O. fruticosa* L. var. *hirsuta* Nutt. (in Torr. & Gray, Fl. i. 496 (1840)). The name O. HYBRIDA Michx. must now be taken up for that plant. Of the earlier names which have been synonymized with *O. fruticosa* (in the older sense), *O. mollissima* Walt. Fl. Carol. 129 (1788) seems to have been *O. laciniata* Hill (1768), as the only specimens in the Walter Herbarium agreeing at all well with his description are of this species; *O. florida* Salisb. Prod. 278 (1796) is a mere renaming of *O. fruticosa* L.; *O. tetragona* Roth, Cat. Bot. ii. 39 (1799), is scarcely identifiable from description, as it may have been either *O. hybrida* (*O. fruticosa* var. *hirsuta* Nutt.) or one of the pubescent species such as *O. pratensis* (Small) Robinson; and *O. chrysantha* Michx. l. c., referred to this species by Léveillé in his monograph of the genus, is correctly identified in the Index Kewensis with *O. pumila* L., as is shown by Prof. Fernald's later determination of the type.

For the less pubescent or subglabrous form, which has been treated as true *O. fruticosa* by most writers, the earliest varietal name seems to be *O. fruticosa* β. *ambigua* Nutt. Gen. i. 247 (1818), described as "more or less pilose;. . . .leaves lanceolate, or ovate-lanceolate, acute, subdenticulate, petals obcordate, longer than broad;. . . .capsule subsessile, always smooth, oblong, and 4-winged," and said to be

common around Philadelphia, where "in dry and exposed situations .... it.... becomes very hairy, in wet places often perfectly smooth." Although, as with the early writers generally, there may have been confusion in Nuttall's mind with others of the closely related species of this group, his description applies with sufficient distinctness to the *O. fruticosa* (typical) of our manuals to justify the adoption of his name for that form in its present varietal rank, as O. HYBRIDA Michx. var. **ambigua** (Nutt.). I refrain from citing other probable synonyms of this form because of the uncertainty which, in the absence of authentic specimens, must attend the identification of the older descriptions of members of the *Kneiffia* group.

7. *Thapsia trifoliata* L. Sp. i. 262 (1753).[1] The Gronovian reference is based on *Clayton* 291, which is a young specimen of the plant called in the 7th edition of Gray's Manual *Thaspium aureum* Nutt. var. *atropurpureum* (Desr.) Coult. & Rose. The synonymy of the yellow form of this species and of *Zizia aurea* (L.) Koch has become badly confused. Thus *Thaspium aureum* Nutt., used by Coulter & Rose (Bot. Gaz. xii. 135 (1887)) and by the 7th edition of Gray's Manual, is based by Nuttall (Gen. i. 196 (1818)) on the name-bringing synonym *Smyrnium aureum* Pursh, Fl. i. 196 (1814), which in turn rests on the same name of Willdenow (Sp. i. 1468 (1798)), and this on that of Linnaeus (Sp. ed. 1. i. 262 (1753), ed. 2. i. 377 (1762)). The same *Smyrnium aureum* of Linnaeus is also the basis of *Zizia aurea* Koch, Nov. Act. Caes. Leop. xii. 129 (1825). Obviously the name *Smyrnium aureum* can not continue to do service as the basis of specific names in two different genera. Linnaeus's *S. aureum* is now recognized as applying to the *Zizia* (*Z. aurea* (L.) Koch), and the name to be used for the purple-flowered *Thaspium* is accordingly THASPIUM TRIFOLIATUM (L.) Gray (as to syn.), Man. ed. 2. 156 (1856), with which *Smyrnium atro-purpureum* Desr. in Lam. Ency. iii. 667 (1789), with its various subsequent combinations, is synonymous. For the yellow-flowered form it becomes necessary to create a new name, since the various designations hitherto in use have been based on *Thaspium aureum* Nutt., which as has been shown rests on *Smyrnium aureum* L. and is not applicable to the *Thaspium*. It may be called:

[1] *Thapsia trifoliata.*

"4. THAPSIA foliis ternatis ovatis.

"Sium folio infimo cordato, caulinis ternatis; omnibus crenatis. *Gron. virg.* 31.

"*Habitat in* Virginia.

"Semina singula gaudent alis 5, longitudinalibus, membranaceis, & involucra nulla sunt uti in praecedente, cum qua genera conjungo, quamvis facie diversa."

THASPIUM TRIFOLIATUM (L.) Gray var. **flavum**: omnino ut apud plantam typicam sed floribus aureis.— As TYPE may be designated a sheet from ILLINOIS: rich woods, Peoria, May & July, 1904, *F. E. McDonald* (in Gray Herb.)

8. *Azalea lutea* L. Sp. i. 150 (1753).[1]— *A. nudiflora* L. Sp. ed. 2. i. 214 (1762).[2]— In recent floras *Azalea lutea* L. has been considered identical with *A. calendulacea* Michx. (= *Rhododendron calendulaceum* (Michx.) Torr.), while *A. nudiflora* L. (= *Rhododendron nudiflorum* (L.) Torr.) is retained for an entirely different species with pink flowers. Comparison of the original descriptions of both species cited in the footnotes is sufficient to show, however, that the later *A. nudiflora* is a mere renaming of *A. lutea*, since the added citations have introduced no new element into the species.

The Clayton plant, type of the *Azalea ramis infra flores nudis* of Gronovius, is *Rhododendron canescens* (Michx.) D. Don; the specimen of *Azalea nudiflora* in the Cliffortian Herbarium is the *R. nudiflorum* of authors; the Colden plant, from which the specific name first used by Linnaeus was derived, was probably *R. calendulaceum* (Michx.) Torr.; and the plant of Plukenet, not now represented by a specimen, is scarcely determinable. The material in the Linnaean Herbarium, consisting of two sheets from Kalm labelled *nudiflora*, represents the *R. nudiflorum* of present treatments. The Linnaean *Azalea lutea* (and *A. nudiflora*, its straight synonym) thus included the three species now generally known as *Rhodendron nudiflorum*, *R. canescens*, and *R. calendulaceum*. All three were described as new by Michaux in 1803 under the names *Azalea periclymenoides*, *A. canescens*, and *A. calendulacea*. Pursh, the next writer on these species, retained all

[1] *Azalea lutea.*
"3. AZALEA foliis ovatis, corollis pilosis, staminibus longissimis.
"Azalea ramis infra flores nudis. *Gron. virg.* 21.
"Azalea scapo nudo, floribus confertis terminalibus, staminibus declinatis. *Hort. cliff.* 69.
"Azalea erecta, foliis ovatis integris alternis, flore luteo piloso praecoci. *Cold. ebor.* 25.
"Cistus virginiana, periclymeni flore ampliori minus odorato. *Pluk. mant.* 49.
"*Habitat in* Virginia. ♄"

[2] *Azalea nudiflora.*
"2. AZALEA foliis ovatis, corollis pilosis, staminibus longissimis. *Kalm. it.* 3. *p.* 110. *Duham. arb.* 1. *p.* 85. *t.* 3.
"Azalea ramis infra flores nudis. *Gron. virg.* 21.
"Azalea scapo nudo, floribus confertis terminalibus, staminibus declinatis. *Hort. cliff.* 69. *Trew. ehret.* 48.
"Azalea erecta, foliis ovatis integris alternis, flore luteo piloso praecoci. *Cold. ebor.* 25.
"Cistus virginiana, periclymeni flore ampliori minus odorato. *Pluk. mant.* 49.
"*Habitat in* Virginiae *siccis.* ♄.
"*Floret ante folia vel sub ipso vernatione & stamina gerit duplo corollis longiora.*"

Michaux's names, referring *A. nudiflora* Willd. Sp. i. 831 (i. e. *A. lutea* L., *A. nudiflora* L.) to *A. periclymenoides*, and his action must be taken as determining the application of the name, particularly since he was followed by Torrey in 1824 when the latter transferred these species to *Rhododendron*. The name *Azalea nudiflora* or *R. nudiflorum* has thus become definitely fixed on the *A. periclymenoides* of Michaux, and its straight synonym *A. lutea* must be attributed to the same species. The specimen in the Hortus Cliffortianus may be considered the type. As it happens, however, the name *lutea* cannot be taken up for our common pink-flowered Azalea, because of the valid *Rhododendron luteum* Sweet, Hort. Brit. ed. 2. 343 (1830), applied to a species of Turkey and validated by his reference to plate 433 (1799) of the Botanical Magazine. The combination *Rhododendron luteum*, based on *Azalea lutea* L., has recently been made by Schneider (Ill. Handb. Laubholzk. ii. 500 (1911); see also p. 1046, where *R. calendulaceum* is adopted in place of his *R. luteum* on account of the prior homonym of Sweet), but unfortunately he follows our recent manuals instead of the earlier and correct disposition of the name in the Synoptical Flora (ii. pt. 1. 41 (1878)), and refers the name to *R. calendulaceum*, retaining *R. nudiflorum* as a distinct species. Those who retain the genus *Azalea* as distinct from *Rhododendron*, however, must either adopt *A. lutea* for the pink-flowered species or take up Michaux's *A. periclymenoides* and discard altogether *A. lutea* and *A. nudiflora*.

(*To be continued.*)

Gray Herbarium.

REPORTS ON THE FLORA OF THE BOSTON DISTRICT,—XXVII.

POTENTILLA.

P. ANSERINA L. Made land, South Boston (*C. E. Perkins*, June —, 1882). Specimen in herb. N. E. Botanical Club. A waif in this region, being a native of western North America from Mexico northwards, also of Eurasia.

P. argentea L. Dry sunny places, very common throughout.

P. arguta Pursh. Rocky soil in woods and pastures, occasional from Blue Hills northward.

P. canadensis L. Dry soil, common throughout.

P. canadensis L., var. **simplex** (Michx.) T. & G. As common as the typical form and not easily distinguishable from it after flowering.

P. fruticosa L. Swamps (in our territory). Reported as abundant at Ipswich, Essex, Rockport, Lynnfield and Groton; scattered bushes at twelve other stations from Norfolk north and northeast.

P. INTERMEDIA L. Roadside, Cambridge (*M. L. Fernald*, June 15, 1891.)

P. monspeliensis L. Dry sunny places, common throughout.

P. monspeliensis L., var. NORVEGICA (L.) Rydb. Introduced in waste places; Manchester, Beverly, Boston, South Boston, Scituate.

P. pacifica Howell. See RHODORA xi. 1–9, 1909. Salt marshes, common all along the coast.

P. palustris (L.) Scop. Swamps and ditches, occasional from Canton and Needham northward.

P. palustris (L.) Scop., f. **subsericea** (Becker) Wolf. Dedham (*S. Harris*, June 13, 1897). Specimen in herb. N. E. Botanical Club. For discussion of this form see Fernald & Wiegand, RHODORA xii. 111, 140, 1910; S. F. Blake, ibid. xv. 165–166, 1913; Fernald & Long, ibid. xvi. 10, 1914.

P. palustris (L.) Scop., var. **villosa** (Pers.) Lehm. See RHODORA xi. 48, 1909 and xvi. 10, 1914. Dedham (*J. R. Churchill*, July 18, 1891); Millpond on Charles River, South Natick (*K. M. Wiegand & Margaret Heatley*, June 30, 1908). Specimen in herb. Wellesley College.

P. pumila Poir. Dry fields and pastures, very common throughout.

P. pumila Poir., f. **ochroleuca** C. A. Weatherby. See Rhodora xi. 152–3, 1909. Roadside in dry gravelly soil, Cambridge (*M. L. Fernald & C. A. Weatherby*, May 26, 1909).

P. recta L. Dry fields and roadsides, occasional.

P. reptans L. Lawn of Gray Herbarium, Cambridge (*M. L. Fernald* et al. June 27, 1900 to 1910), Now eradicated.

P. tridentata Ait. Rocky and sandy places, Plum Island in Ipswich, Hamilton, Salem, Gloucester, Rockport, Marblehead, Wilmington.

PRUNUS.

P. americana Marsh. Roadside near house, E. Boxford (*J. Robinson*, May 5, 1891); roadside escape in dry soil, Halifax (*C. H. Knowlton & A. S. Pease*, May 30, 1907). Native from Connecticut south and west.

P. avium L. Persistent and spontaneous in many places.

P. Cerasus L. Small, late-bearing trees between Topsfield and Beverly (*C. E. Faxon & J. Robinson*, May 19, Sept. 3, 1891.)

P. cuneata Raf. Dry sand and gravel; not reported from southeast towns, but frequent elsewhere.

P. institutia L. Found "in the woods near Mt. Auburn" by Wm. Oakes, whose specimen is in the Gray Herbarium, and observed as lately as 1913 by Mr. Walter Deane, by the Charles River marsh, on the eastern slope of Cambridge Cemetery; Weld Farm, W. Roxbury (*E. & C. E. Faxon*, Aug. 21, 1882 et seq.); "Holbrook Estate," Percival St., Dorchester (*J. R. Churchill*, May 19, 1897).

Emerson in Trees and Shrubs of Massachusetts, 450, 1846, says: "A bush or small tree, found on the banks of Charles River, in Cambridge, by road-sides at Cohasset, and in other places in the vicinity of Boston . . . . This plant was first pointed out to me by my friend E. Tuckerman, and I have since repeatedly met with it."

P. Mahaleb L. South Salem (*J. H. Sears*, June 15, 1887). Introduced from southern France in old gardens, and spontaneous. Specimen in herb. Peabody Acad. Sci.

P. maritima Wang. Dry sandy soil, common on or near the shore; it follows up the Merrimac River to Tyngsboro, thirty miles from the sea, and from there south to Concord, Billerica and Burlington.

P. nigra Ait. A rare escape from cultivation.

P. pennsylvanica L. f. Copses and dry woods, common throughout.

P. Persica (L.) Stokes. Spontaneous seedlings at South Boston, Dedham, Blue Hills and Hingham; probably elsewhere.

P. serotina Ehrh. Dry open woods and roadsides, very common throughout.

P. virginiana L. Borders of thickets and open woods, common throughout.

PYRUS.

P. americana (Marsh.) DC. Moist woods, Essex County, from Wm. Oakes's time to the present, rare.

P. arbutifolia (L.) L. f. Thicket west side of Stetson Pond, Pembroke (*M. L. Fernald*, October 29, 1916). Specimen in herb. N. E. Botanical Club.

P. arbutifolia (L.) L. f., var. **atropurpurea** (Britton) Robinson. Swamps and low woods, common throughout.

P. Aucuparia (L.) Ehrh. Thickets and old fields, frequent.

P. baccata L. Woods, S. Natick (*J. R. Churchill*, Aug. 29, 1908).

P. communis L. Woods and thickets, occasional.

P. Malus L. Pastures and thickets, frequent throughout.

P. melanocarpa (Michx.) Willd. Wet meadows, also ledgy upland, very common throughout.

P. Aucuparia L. × **melanocarpa** (Michx.) Willd. Ipswich (*W. P. Alcott*, May 26, 1908); Pigeon Cove woods, Rockport (*Miss M. E. Carter*, October, 1905); moist meadow, Andover (*A. S. Pease*, July 10, 1902); escape, Hillside St., Milton (*J. R. Churchill*, Sept. 18, 1887).

ROSA.

R. canina L. Roadside, Prospect Hill, Andover (*A. S. Pease*, June 28, 1904); a single bush on "made land," Westland Ave., Boston (*C. W. Swan*, June 19, 1885); Center St., Jamaica Plain (*E. & C. E. Faxon*, July 1, 1888).

R. carolina L. Swamps and wet places, common.

R. cinnamomea L. Persistent around old places, occasional.

R. gallica L. Escaped and well established at Andover and Canton, probably elsewhere.

R. humilis Marsh. Dry soil, apparently common.

R. nitida Willd. Swamps, frequent.

R. RUBIGINOSA L. Dry fields and roadsides, well distributed but seldom abundant.

R. RUBIGINOSA L., var. MICRANTHA (Sm.) Lindl. Occasional.

R. RUGOSA Thunb. Thoroughly escaped at Newburyport, Rockport, Revere and Cambridge. Earliest report 1905. Native of North China, Korea and Japan.

R. virginiana Mill. Moist soil along the seashore and inland, apparently common. Many specimens identified as this species and as *R. humilis* seem to be indistinguishable from each other, and can not be separated readily.

RUBUS.

R. allegheniensis Porter. Dry thickets, common.

R. Andrewsianus Blanchard. Cohasset and the shore towns south, perhaps inland. A late fruiting blackberry with rigid thorns and impressed veins in leaves.

R. frondosus Bigel. Dry thickets, apparently not common. Originally described by Jacob Bigelow in Florula Bostoniensis, 2d ed., 199–200, 1824.

R. hispidus L. Wet woods and swamps, common throughout.

R. idaeus L. var. **aculeatissimus** [C. A. Mey.] Regel & Tiling. Dry open places, common.

×? **R. neglectus** Peck. Andover (*A. S. Pease*, June 14, 1903); Rockport (*E. B. Bartram*, Sept. 13, 1908); thicket, Lynnfield (*M. L. Fernald*, June 16, 1907); roadside, Concord (*W. Deane*, June 5, 1892).

R. occidentalis L. Thickets and fence-rows, frequent throughout.

R. odoratus L. Rich woods, occasional in Essex and Middlesex Counties; sometimes spontaneous from cultivation, as at Cambridge, Sharon and Scituate.

R. pergratus Blanchard. Occasional from Norwood north.

R. pubescens Raf. (*R. triflorus* Richards. See RHODORA xi. 236–7, 1909). Swamps and wet woods, frequent.

R. pubescens Raf., var. **pilosifolius** A. F. Hill. See RHODORA xvi. 151–2, 1914. Purgatory swamp, Norwood (*C. E. Faxon*, May —, 1878). Specimen in Gray Herb.

R. recurvans Blanchard. Occasional.

R. setosus Bigel. Wet places, occasionally on dry upland, common.

R. TRIPHYLLUS Thunb. Vacant lot, Back Bay, Boston (*W. P.*

Rich & C. H. Knowlton, June 26, 1907 et seq.). A native of Japan, escaped from Fenway.

R. procumbens Muhl. (*R. villosus* of Gray's Manual ed. 7 not L.). Dry sand and gravel; very common, especially near the coast.

SANGUISORBA.

S. canadensis L. Common and abundant in meadows and edges of salt-marshes in all the Essex County shore towns from Salisbury to Rockport, and in the second tier of towns in Georgetown, Boxford, Topsfield and Hamilton; also considerable stations in Dracut, Bedford and Littleton.

S. MINOR Scop. One station in a hayfield, Wellesley (*K. M. Wiegand*, June 5, 1908).

SORBARIA.

S. SORBIFOLIA (L.) A. Br. Escaped and difficult to exterminate, Beverly (*Frank Stone*, July 1, 1879); escaped and well established, Milton (*E. F. Williams*, June 30, 1895). Often persistent around old places.

SPIRAEA.

S. latifolia (L.) Borkh. Dry or moist soil in open places; very common throughout.

S. PRUNIFOLIA Sieb. & Zucc. Rocky knoll, spreading near site of old greenhouse, Arlington (*C. A. Weatherby*, Aug. 24, 1908); persistent by roadside near old garden, Sudbury (*A. H. Moore*, May 28, 1905).

S. tomentosa L. Old fields and pastures, common throughout.

S. tomentosa L., f. **albiflora** Macbride. RHODORA xvii. 142–143, 1915. Occasional.

[*Waldsteinia fragarioides* (Michx.) Trattinick. There is a good specimen of this in the herbarium of the Peabody Academy of Science, collected by Miss M. W. Nichols in Horswell's woods, Danvers, May 15, 1891. The suggestion is made on the label that it may have been introduced, which seems possible, as this station is so far out of range.]

C. H. KNOWLTON
WALTER DEANE
} *Committee on Local Flora.*

Lycopodium sabinaefolium Willd. var. **sharonense** (Blake) comb. nov.— *L. tristachyum* Pursh var. *sharonense* Blake! Fern Bull. xviii. 9 (1910). *L. complanatum* L. var. *sharonense* (Blake) Farwell, Ann. Rep. Mich. Acad. Sci. xviii. 94 (1916), as to syn.— Speciei formae typicae simile, pedunculis longioribus (6.1–7.6 cm.) exceptis.— The plant which I described some years ago as a variety of *Lycopodium tristachyum* proves, when compared with ample material, to be referable to *L. sabinaefolium* Willd. From all specimens of that species examined, however, it differs in its very long (6.1–7.6 cm.) peduncles. The fairly extensive series of specimens in the Gray Herbarium and the herbarium of the New England Botanical Club shows scarcely any peduncles longer than 4 cm., and the average is only 2–3 cm. Willdenow's types, which I examined in 1914 at the Berlin Herbarium, have peduncles 1.5–2.3 cm. long, and were originally labelled "Lycopodium alpinum. Canada. (Richard.)"

The specimens on which this variety was based, from Sharon, Hillsboro Co., New Hampshire (42° 50′ N. Lat.) are of especial interest as affording the southernmost known locality for any form of the species. Mr. Maxon's record (Am. Fern Journ. v. 3 (1915)) of Haberer's Oneida County (New York) specimens is very nearly on the same parallel but is slightly more northern. There appears to be no other New Hampshire record for any form of the species.

In the last edition of Gray's Manual (ed. 7. 58 (1908)) *Lycopodium sabinaefolium* is reported from Staten Island, on the authority of specimens collected by J. C. Buchheister. Plants from Mr. Buchheister, collected in sandy barrens near Rossville, at a station said later to be destroyed by fire, and labeled *Lycopodium sabinaefolium*, are in the Gray Herbarium. Although they are merely young plants without fruit, it may be stated with certainty that they are not *L. sabinaefolium*, but that they are either *L. tristachyum* or *L. complanatum* var. *flabelliforme*. The record of *L. sabinaefolium* from Staten Island should be expunged.— S. F. Blake, Gray Herbarium.

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